

# The Amazing Saga of Montana's Elk



It begins with abundance, then turns to greed and waste, then continues with one of the most remarkable wildlife management success stories in North America. And the current chapter is perhaps most interesting of all.

**BY SAM CURTIS**

**T**he restoration of its world-renowned elk population has been one of Montana's greatest wildlife management success stories. Over the past century wildlife managers, hunters, ranchers, and others have helped rebuild a population from only a few thousand animals to one now estimated at over 150,000. The elk recovery did not come easily. Scientists have had to learn much about the animal's biology, population dynamics, habitat needs, relations with predators, and responses to hunting. Hunters are continually being asked to comprehend new and increasingly complex hunting regulations and management proposals. And because elk know no boundaries, Montana stockgrowers bear the brunt of wide-ranging herds that can overgraze croplands, destroy haystacks, and trample fences. One of the greatest challenges to state elk managers today is balancing the needs and rights of the public in whose trust the state holds elk with those of the private landowners on whose property elk roam. Socioeconomic changes in recent years, such as the growing number of new landowners making their property off-limits to hunting, make that balance ever more difficult to strike.

#### **Almost gone**

The story of elk management in Montana starts with plenty of elk but no management. Historians estimate there may have been mil-

lions of the large ungulates in North America before Europeans arrived here. The westward expansion following Lewis and Clark brought fur traders, gold seekers, market hunters, and settlers, all of whom relied on wild game for food and profit. "By the time wholesale slaughter of bison had reached a peak in the mid-1870s, elk figured prominently in the harvest wherever it was available," writes Richard McCabe in *Elk of North America*. A bison hide at the time was worth \$4, but an elk hide brought \$7. Many professional hunters wasted no time with easily perishable elk meat, taking only the hide and "ivories" (tusk remnants found in the animal's upper jaw) and leaving the rest to rot. "Even as late as 1881, with bison and elk herds seriously diminished," writes McCabe, "more than 5,000 of these hunters and their skinners still plied their skills in Wyoming, Montana, the Dakotas, and southern Canada, the areas in which most remaining elk were confined."

By the mid-1880s, market hunting had eliminated elk from the plains and sharply reduced herd sizes in the mountains. Elk numbers reached a low point around 1910, when an estimated 50,000 or fewer existed in all of North America. About half were taking refuge in and around Yellowstone National Park, established in 1872, and in Jackson Hole, Wyoming (where the National Elk Refuge was later established).

Like bison before them, elk were vanishing before most people realized they were gone. Early pioneer legislators foresaw the

*Writer Sam Curtis of Bozeman is author of several elk hunting books. Most of the information for this article came from the FWP 2005 Elk Management Plan, written by FWP wildlife research biologist Ken Hamlin, Bozeman.*



**DARK AGES** The commercial exploitation of bison and elk peaked in the late 19th century, nearly exterminating both species.

impending tragedy and enacted territorial game laws as early as 1872. Yet "most people were unaware of these laws or simply ignored them," writes Allan Lovaas in *People and the Gallatin Elk Herd*. "The early game laws were a jumble, and not even the newspapers could agree whether or not elk hunting was legal in 1891." Still, it was a start.

Around the turn of the new century, the state legislature established the Montana Board of Game and Fish Commissioners, and Governor John E. Richards appointed W. F. Scott as the first state game warden. By 1905, Montana required resident hunting and fishing licenses, and two years later the hunting season was set from September 1 to December 1, with a limit of one elk.

Most hunters abided by the new laws, but those who didn't had little to fear. Each of Scott's eight deputy game and fish wardens, traveling by horse and train, oversaw a district averaging 18,000 square miles. What curtailed the illegal kill most was the lack of elk. In 1910, only 3,000 were thought to survive in all of Montana outside Yellowstone National Park.

### Early years of restoration

The local and national response to the elk crisis grew rapidly. Citizen conservationists formed local sportsmen's clubs to raise funds and public awareness for restoring elk, and to push for further harvest restrictions and more enforcement. Out of this growing conservation movement came the state's first elk transplant, in 1910, from Yellowstone National Park to Fleece Mountain near Butte. Over the next three decades, a total of 1,753 elk from the park, Jackson Hole, and the National Bison Range in Moise were transplanted to several dozen sites in national forests to bolster elk numbers and speed the process of dispersing the animals into suitable habitat. In 1913, Montana established the Sun River Game Preserve, the first of several set up during the next decade to provide places where elk were safe from hunters and could graze on forage without competition from livestock.

The combination of regulated hunting seasons, transplants, and preserves were all elk needed. Montana's population quickly grew to where the animals began overgrazing forage on some preserves and nearby private lands. For the first time in its short history, Montana was faced with a problem of having too many elk in some isolated areas. In 1937 Montana rancher Joe Greaves was acquitted of illegally shooting four elk that were feeding on his wheat crop. State laws resulting from the court case required the Fish and Game Department to assist landowners in reducing wildlife depredation losses. A few years later, however, after rancher C. R. Rathbone was arrested for killing elk damaging his property, the Montana Supreme Court ruled that landowners had to accept some depredation from elk and other

wildlife. Caught between these two mandates was the Fish and Game Commission, which struggled to reconcile conflicting opinions among sportsmen, wildlife managers, and stockgrowers about what constituted suitable elk numbers and proper elk management.

While continuing to expand the elk range into new areas of the state, the Fish and Game Department decided to reduce conflicts between elk and ranchers in key areas by increasing the elk harvest and acquiring, from willing sellers, high-quality habitat that would keep elk from spending too much time on private lands. In 1940, the agency made its first significant purchase of big game winter range. Those 1,004 acres in the Little Belt Mountains were one of many acquisitions over the next half century that created a system of wildlife management areas, benefiting elk and other species, totaling more than 300,000 acres.

### Enter the biologists

The year 1940 marked the beginning of another significant era in the state's elk management history: the hiring of Bob Cooney, Montana's first wildlife biologist. Previously, the Fish and Game Department consisted almost entirely of game wardens, who had their hands full enforcing game laws. Cooney and other wildlife biologists hired over the next decade established a scientific foundation to elk management based on monitoring populations, protecting and improving habitat, and adjusting harvest regulations.

In 1951, Montana's elk population was up to an estimated 40,000 and growing and expanding steadily. The increase was aided by bull-only harvest restrictions, which protected the cows that produced additional young elk each spring. By the early 1960s, elk were

**ELK ON THE GO** In 1910, the first transplant of elk from Yellowstone National Park was made to Fleece Mountain, near Butte (right). By 1940, a total of 1,753 elk had been transplanted to 31 sites around Montana. Transplantation (below) of an additional 4,140 elk continued until 1970. The transplants have helped elk repopulate much of their former habitat, from an estimated 8,000 head in 1922 to roughly 130,000 to 160,000 today.



**THE ELK PASTURES** In 1947, Montana established the Sun River Game Range, which eventually became one of Montana's major wildlife management areas. WMAs were originally established as winter range that forestalled elk from moving onto private pastures in late winter, helping to reduce conflicts between ranchers and wildlife.

## TIMELINE: Elk in Montana

<p><b>1800</b></p> <p>Lewis and Clark repeatedly mention "vast herds" of elk in their expedition journals.</p>	<p><b>1830-1860</b></p> <p>Demand for buffalo hides and tongues in the early 1800s quickly escalates to the large-scale slaughter of bison, and soon expands to include elk.</p>	<p><b>1870</b></p> <p><b>1872:</b> Yellowstone National Park is established.</p>	<p><b>1880</b></p> <p><b>Mid-1880s:</b> Elk are extirpated from the plains, and numbers are sharply reduced in the mountains.</p>	<p><b>1890</b></p> <p><b>1889:</b> Montana achieves statehood.</p> <p><b>1895:</b> The Montana Board of Game and Fish Commissioners is established.</p> <p><b>1895:</b> Montana hires W. F. Scott as the first state game warden.</p>	<p><b>1900</b></p> <p><b>1901:</b> Montana Department of Fish and Game is established.</p> <p><b>1905:</b> A hunting and fishing license is required for Montana residents.</p>	<p><b>1910</b></p> <p><b>1910:</b> Only 3,000 elk are thought to survive in Montana, and less than 50,000 total in all of North America.</p> <p><b>1910:</b> The first transplant of elk is made from Yellowstone to Fleece Mountain near Butte.</p> <p><b>1913:</b> The Montana Legislature takes a major step in wildlife protection by designating the Sun River Game Preserve.</p>	<p><b>1920</b></p> <p><b>1922:</b> Montana's elk population is estimated at between 7,500 and 8,000 head.</p>	<p><b>1930</b></p> <p><b>1928:</b> Elk number about 10,900 in Montana.</p>	<p><b>1940</b></p> <p><b>1937:</b> The Montana Legislature passes a law requiring the Fish and Game Department to help landowners suffering losses from elk and other big game.</p>
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occupying much of the available prime habitat remaining in Montana. Biologists conducting studies on winter range saw that elk and increasing numbers of livestock were overgrazing state and national forest land. The department responded by putting the brakes on elk population growth in much of the animal's range. Because the primary tool for managing elk is public hunting, Montana began phasing out state preserves (though the efforts were met with resistance from hunters and other Montanans who wanted to see more elk). To increase the cow harvest, the department instituted either-sex hunting sea-

son-long either-sex seasons were allowed in only 7

er, but wildlife managers were concerned that herds were increasingly vulnerable to overharvest if a severe early winter pushed them down from the mountains close to logging roads. What's more, either-sex regulations earlier in the decade had resulted in the overharvest of cow elk in some parts of the state. The department once again shifted gears, this time with the Fish and Game Commission restricting cow elk hunting opportunities. Short either-sex seasons lasting from one day to two weeks were applied to 66 percent of the occupied elk habitat, and season-long either-sex seasons were allowed in only 7

tions, biologists later concluded that reproductive success was affected most by factors other than bull age. The research also showed that restricting harvest to bulls with brow tines only (age two and a half and older) did not produce a significant number of trophy bulls five years and older. The reason was that most bulls were harvested as soon as their racks sprouted legal brow tines, and very few escaped hunters long enough to reach trophy size. Nevertheless, because hunters prefer harvesting two- and three-year-old bulls to spikes, Montana continues to hold brow-tine-only seasons in many hunting districts. In the 1980s, biologists began to set specific population objectives for the state's 35 elk hunting districts. Previously they had only used forage quality to classify elk populations, which they described as too high, too low, or "about right." If vegetation was poor due to drought or overgrazing, more elk in that area needed to be harvested. If forage appeared healthy, fewer elk needed to be harvested. But after 30 years of studying elk, biologists were seeing that in many areas elk populations could be sustained at much higher numbers than previous assumptions about forage indicated. On the other hand, landowner tolerance in some areas meant that elk population objectives needed to be lower than what the land could support. Added to the mix were new, more precise methods of counting elk numbers and determining sex ratios from the air while the animals were concentrated on their winter ranges. This gave biologists an increasingly accurate picture of just how many elk were out there and, thus, how many should be harvested each hunting season to grow or shrink specific populations.

Beginning in the late 1980s, Montana began adjusting hunting regulations to meet

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sons. In 1963, hunters could take a bull or a cow in 67 percent of the state's occupied elk habitat during a five-week season, while antlered bull-only hunting was restricted to 21 percent of the elk habitat. These regulations initially resulted in high harvests of both cow and bull elk, which led to relatively low but stable elk populations.

By the late 1960s, wildlife biologists were asking questions about the effects of increased logging on elk numbers. Their main concern was the growing network of new logging roads opening up access to elk habitat previously secure from hunters. Montana's elk population was still growing, though more slowly than a few decades earli-

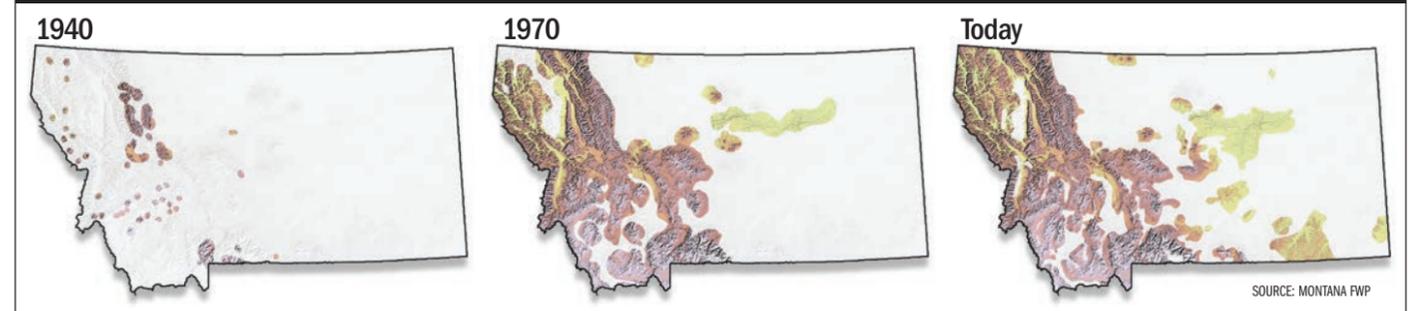
percent of the habitat. By reducing cow harvest, these and other regulation adjustments helped increase elk numbers.

Over the next several decades, the department now known as Montana Fish, Wildlife & Parks continued to fine-tune its elk management. Hunters could still harvest cow elk, but only with permits restricted to specific hunting districts rather than across broad swaths of the state. Wildlife managers also began experimenting with bull-harvest restrictions, hoping to protect spike bulls for an extra year to provide more bulls with at least five-point antlers (two-year-olds) and potentially increase breeding success. After lengthy study of the experimental regula-



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**REGAINING TERRITORY** Historically elk were a plains animal, ranging as far east as Minnesota and south to Oklahoma. Market hunting and the conversion of grassland to farmland eliminated elk on the prairie and greatly reduced populations in the forested mountains. By the early 20th century, Montana was home to only a few thousand elk. Starting with transplants from Yellowstone National Park and then bolstered by scientifically regulated hunting seasons that restricted cow elk harvest, Montana's population quickly began to rebound. Herds first spread throughout mountainous forests then moved east into the Missouri Breaks and other historic prairie areas. Over the past decade, elk numbers in many areas have increased beyond what stockgrowers will tolerate.



**1940:** A Montana Supreme Court decision sets a precedent that property owners must accept some wildlife depredation to their land.

**1947:** The department purchases land along the Rocky Mountain Front. What later becomes the Sun River WMA grows to 19,771 acres of winter habitat for elk and other wildlife.

**1955:** Montana's statewide elk harvest reaches 16,000.



**By 1969:** Montana has designated ten wildlife management areas totaling 63,000 acres, primarily for elk and deer winter range.

In the early 1970s, concerns of overharvest lead the department to restrict most elk habitat to general antlered bull hunting.

**1984:** Four hunters from Troy establish the Rocky Mountain Elk Foundation.



**2002:** Montana's elk population is estimated at between 130,000 and 160,000.

**2005:** A revised elk management plan, based in part on input from landowners and hunters, addresses new challenges of decreasing access to private land.

1940

1950

1960

1970

1980

1990

2000

2010



**1940:** The department hires biologist Bob Cooney as Montana's first state big game manager. Cooney and other biologists establish a scientific foundation to elk management.

**1951:** Montana's elk population is estimated at 40,000.

In the early 1960s, wildlife biologists are concerned that elk are overgrazing winter range and recommend increasing the cow harvest.

**1963:** Elk populations are low but stable due to expansive either-sex hunting seasons.



**1978:** Montana's elk population is estimated at 55,000.

**1979:** The department is renamed Montana Fish, Wildlife & Parks.

**1987:** Hunting regulations begin to be adjusted to meet unique population objectives for Montana's 35 elk management units (EMUs).

**1992:** FWP releases a statewide elk management plan largely based on EMU population objectives.



**2007:** In December, Montana holds its first elk summit, where hunters, landowners, and agency officials discuss management issues.

population objectives for some of what the department was now calling elk management units, or EMUs. These objectives became the basis of Montana's first statewide elk management plan, completed in 1992. Regulations multiplied throughout the 1990s as FWP introduced more EMU-specific permits, licenses, and seasons, including late, early, and depredation hunts.

### Finding a fair and reasonable balance

Even as the 1992 elk management plan was going into effect, biologists were again becoming concerned about growing elk numbers in some areas, having counted a total of up to 90,000 animals on their flights over the state's winter ranges. During the next decade and a half, the department began making more antlerless permits available, but hunters either would not or could not harvest enough cow elk to keep numbers down. For example, 5,200 antlerless permits were offered for the Gravelly-Snowcrest area of southwestern Montana in 1997, yet only 3,549 applicants put in for the permits as their first choice. One reason is an aging hunter population increasingly unwilling to pack several hundred pounds of meat out of

the backcountry. Another is a series of mild winters over the past ten years that has reduced natural mortality and allowed elk to stay high in the mountains where many hunters are unwilling to venture. Another factor may be that growing numbers of elk hunters hold out for a bull and pass up cows early in the season. Whatever the reason, hunting has become less effective as an elk management tool. Currently, Montana's elk herd is up to an estimated 130,000 to 160,000 animals, and most of the state's 35 EMUs exceed the state's objectives for elk numbers.

The department's latest statewide elk management plan, issued in 2005, is aimed at helping FWP get a better handle on elk populations by addressing new social and biological realities. In developing the plan, the department considered comments and advice from hundreds of landowners, hunters, and other residents and nonresidents about elk management and population objectives for each EMU. The department has also formed community working groups in some areas to help interested parties reach consensus about elk number objectives and potential solutions to elk management problems. The plan calls for the state to use the Adaptive Harvest

Management (AHM) concept, similar to the one adopted for mule deer management in 2001. With AHM, the Fish, Wildlife & Parks Commission can quickly respond to changing elk populations in specific areas with customized hunting regulations that decrease or increase elk numbers.

In 2006, FWP tried another approach to reduce elk numbers by eliminating many late- and early-season hunts in order to focus more hunting pressure during the main five-week season. Wildlife managers believed the battery of special seasons was allowing elk to move around and escape hunters.

Of course, not everyone agrees that Montana has "too many" elk. Hunters maintain that the problem is not an overabundance of the big game animals but rather an increasingly underabundance of private land open to public hunting.

That may be the biggest challenge for elk management in Montana today. Wildlife biologists estimate that 35 percent of the state's elk may be on private lands inaccessible to the general public. Many landowners are selling or leasing their property for private hunts. Others, often new landowners from out of state, forbid any hunting on



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their property. Declining access to private land leaves hunters with fewer and fewer opportunities to harvest elk. This ties wildlife managers' hands as they try to respond to stockgrower requests for help reducing depredation problems. The closed properties become elk "preserves," where the animals remain secure from hunting during the season then afterwards head to neighboring ranches to feed. The closed gates also deny most hunters an opportunity to pursue what the courts have determined are elk that the state holds in trust for the general public. FWP officials fear this may lead to a decline in hunter participation and, as a result, less public support for elk management and conservation.

A century ago, elk were following close on the heels of bison and nearly exterminated by unregulated commercial harvest. Bringing Montana's elk population back from the brink required the unprecedented cooperation of hunters, wildlife managers, and landowners. If Montana hopes to keep its beloved elk population healthy and strong for future generations to enjoy, it will likely need to find new and innovative ways to keep that decades-long partnership intact. 🐾

*Later this fall, FWP will host a meeting of landowners, hunters, and others interested in elk and elk management. The State of the Elk: A Montana Summit will be held in Bozeman on December 8. The summit is open to the public. Check [fwp.mt.gov](http://fwp.mt.gov) for more information.*

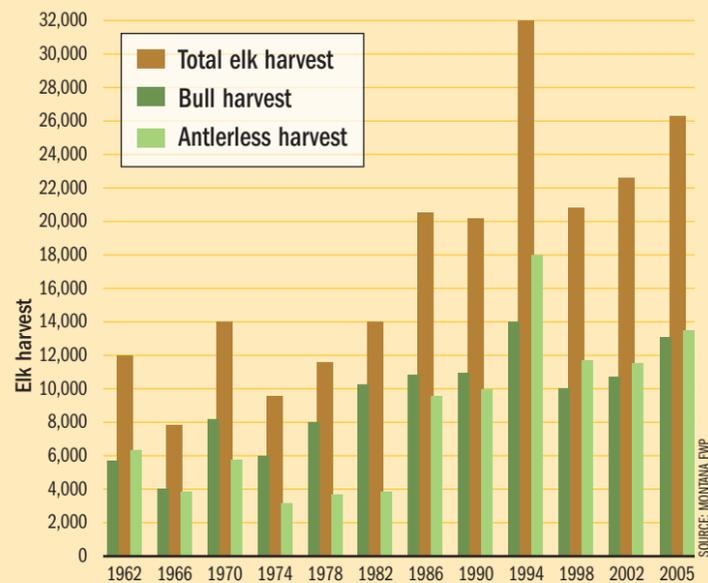
**THE "KEEP OUT" ERA** Elk management's biggest issue today is the decline in public hunting access. The closed gates create refuges that make it difficult for wildlife managers to use public hunting to manage growing elk numbers. This also frustrates adjacent landowners who suffer increasing levels of depredation, as well as hunters who have no means of reaching the elk, which the courts have ruled are held in trust by the state for the public.



BRUCE BECKER

### Elk harvest in Montana, 1962–2005

For decades, FWP has adjusted hunting regulations to increase or decrease cow elk harvest, which results in growing or declining elk herds.



### Elk hunters in Montana, 1955–2005

Hunter numbers doubled between the 1950s and 1980s and have leveled off at roughly 105,000 since then. Roughly 85% of elk hunters are resident and 15% are nonresident. For the general elk license, nonresidents average twice the success rate (20.5%) as residents (10.7%), likely due in part to their much greater use of outfitters.

